

# Proposed In-Use Heavy-Duty Diesel Vehicle Regulation

## Public Workshop

April 11, 2007 in Sacramento  
April 17, 2007 in El Monte



# Workshop Outline

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- Need for Emission Reductions
- Emissions Inventory
- Proposed Regulatory Concept
- Additional Information Needed

# Need for Emission Reductions



# Need for Emission Reductions

- Reduce Diesel Particulate Matter (PM) to reduce deaths from cancer, heart disease, etc.
  - Diesel PM responsible for 70% of known cancer risk from all air toxics
- Reduce oxides of nitrogen (NOx)
  - NOx leads to ozone and secondary PM
- Federal Clean Air Act - must attain ozone and PM standards

# Diesel Risk Reduction Plan

## ■ Established goals

- Reduce PM emissions from all diesel-fueled engines in California
- 75% reduction by 2010
- 85% reduction by 2020

## ■ Four-pronged approach

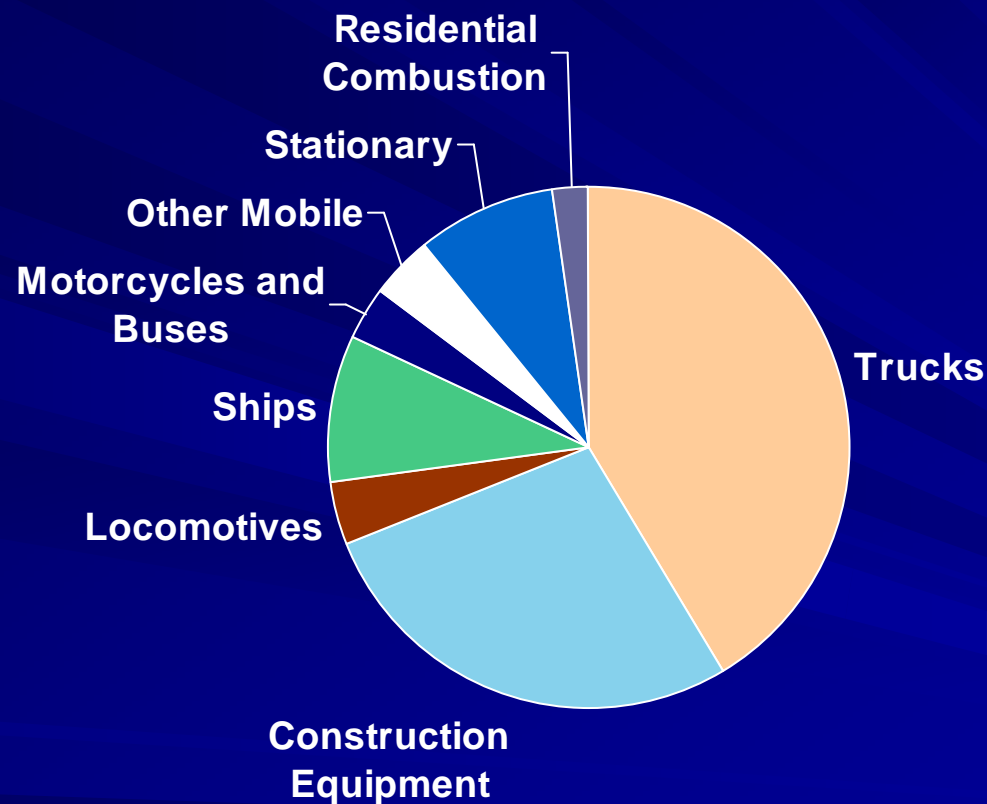
- New engine standards
- Cleaner diesel fuel - <15 ppm sulfur content
- Retrofit of existing engines
- Ensure in-use emissions maintained



# Air Pollution Reductions Needed for Clean Air Plan

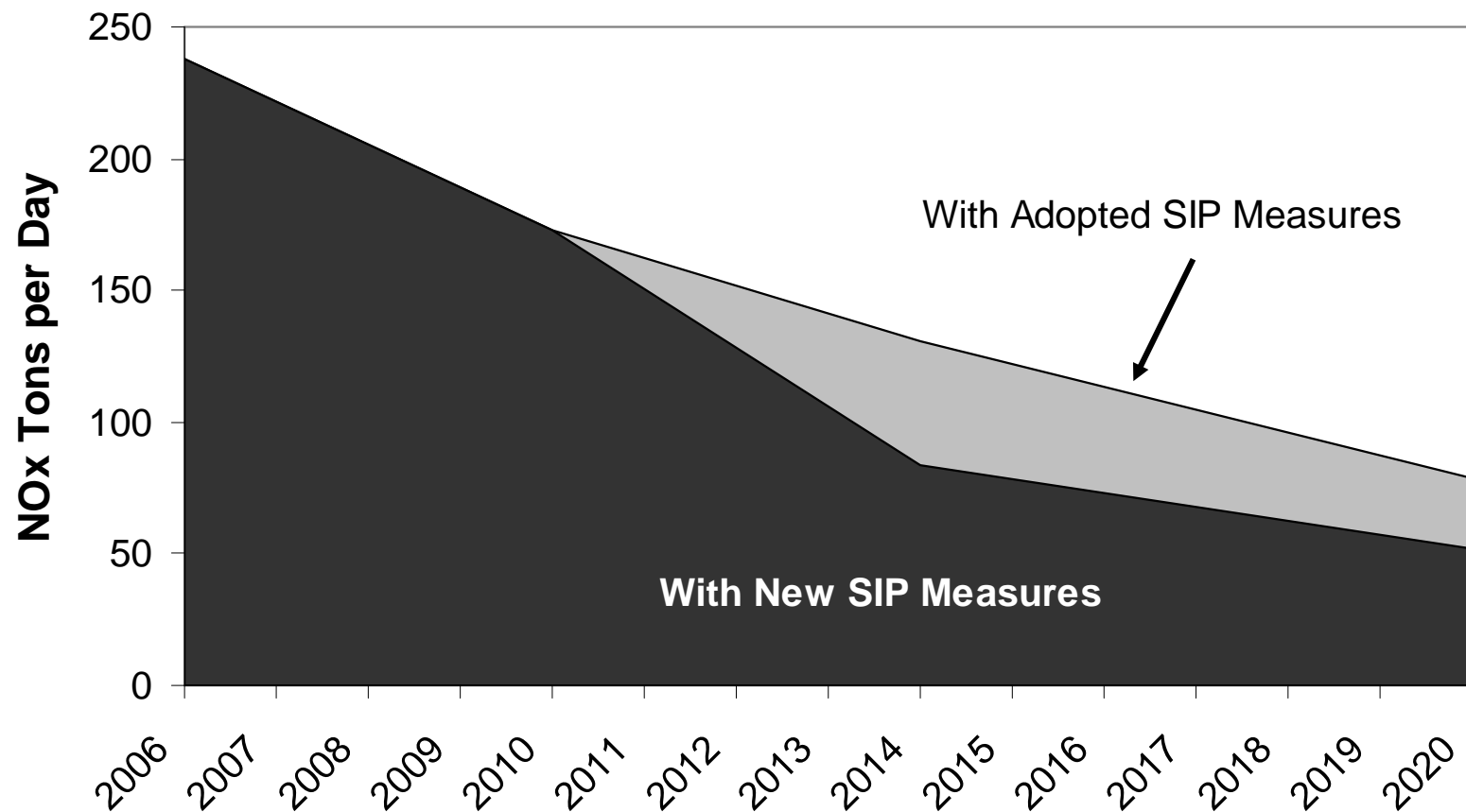
- 15 local areas violate the federal 8-hour ozone standard
- 2 areas violate the federal annual PM2.5 standard
- ARB and districts are currently developing new State Implementation Plans (SIP)
  - A SIP is a master plan that identifies how we will meet federal clean air deadlines

# South Coast 2006 NO<sub>x</sub>



# State Implementation Plan Reductions

**South Coast Truck Emissions - NOx**





# Emissions Inventory

# Estimating Private Fleet Emissions

- Previous approach based on EMFAC
- EMFAC2007 treats out-of-state vehicles same as in-state
  - Assumes same age distribution as in-state trucks
  - Assumes out-of-state trucks drive 25% of all Heavy Heavy-Duty Diesel Truck (HHDDT) miles traveled in CA
- Private fleet emissions are all HHDDT and Medium-Heavy Duty Diesel Trucks (MHDDT) except those subject to other regulations:
  - Public Fleet Rule
  - Refuse Truck Rule
  - Port Truck Rule

# Approach in Development

- Work is currently in progress
- Reviewing new data sources
  - IRP (International Registration Plan)
  - MCP (Motor Carrier Permit)
  - VIUS (Vehicle Inventory and Use Survey)
- Improving population estimates
- Updating MHDDT emission factors

# Revised Private Fleet Inventory

- Anticipated completion – Summer 2007
- Continue to be based upon EMFAC2007
- Our goal is to separate California in-state, California-IRP and out-of-state trucks
  - For MHDDT and HHDDT
  - Separate model year distributions
  - Separate accrual rates by model year
  - Accounting only for mileage accrual within California

# Fleet Surveys

# Industry Surveys

- Designed to obtain more information about fleet operation, truck age, purchasing patterns, and vehicle use
  - Model year
  - GVWR
  - Region of operation
  - Annual mileage
  - Season of use
  - Type of operation



# Current Surveys

## ■ Agricultural vehicle survey

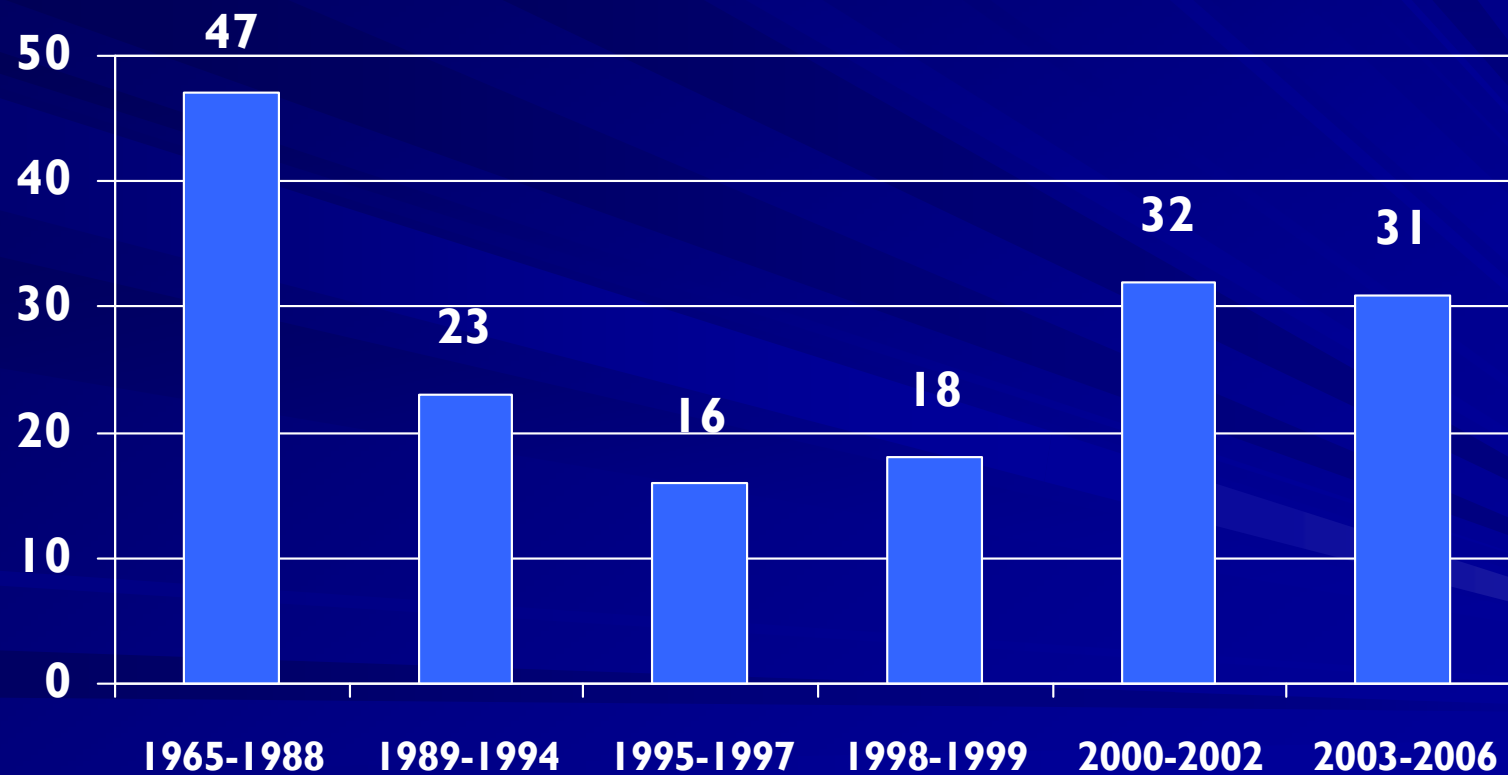
- Working with Nisei Farmers League and others
- Working with the California Farm Bureau Federation
- Data collection in progress

## ■ Dump truck survey

- Working with California Dump Truck Owners Association
- Still collecting data
- Responses to date
  - 48 responses; 174 trucks

# Dump Truck Survey

## Preliminary Results



# Future Surveys

- Online survey
- Need to expand business characterizations
  - Scalable with other available information
- Assistance with outreach

# Proposed Regulatory Concepts

# Overall Goals

- By 2014, emissions no higher than a 2004 model year engine with a diesel particulate filter
- By 2020, emissions no higher than a 2007 model year engine

# Proposed Regulation: Scope

- On-road medium & heavy-duty diesel vehicles (>14,000 lbs GVWR)
  - Trucks
  - Motor homes
  - Federal fleets
  - Buses
  - Specialty vehicles
- Vehicles not covered under a current ARB regulation for heavy-duty diesel-fueled vehicles
  - Trash trucks
  - Public fleets
  - Transit buses



# Proposed Regulation: Scope Continued

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- Any heavy-duty vehicle traveling within California
- Originally equipped with safety equipment to drive on the road
- May or may not be registered though DMV

# Proposed Regulation: Exemptions

- Military tactical vehicles
- Emergency vehicles
- Vehicles that drive 1,000 miles or less per year
- Vehicles with 2007 or newer engines

# Proposed Regulation: Regulatory Concept

## ■ 2 Options

- Fleet Averaging Method
- BACT Phase-in

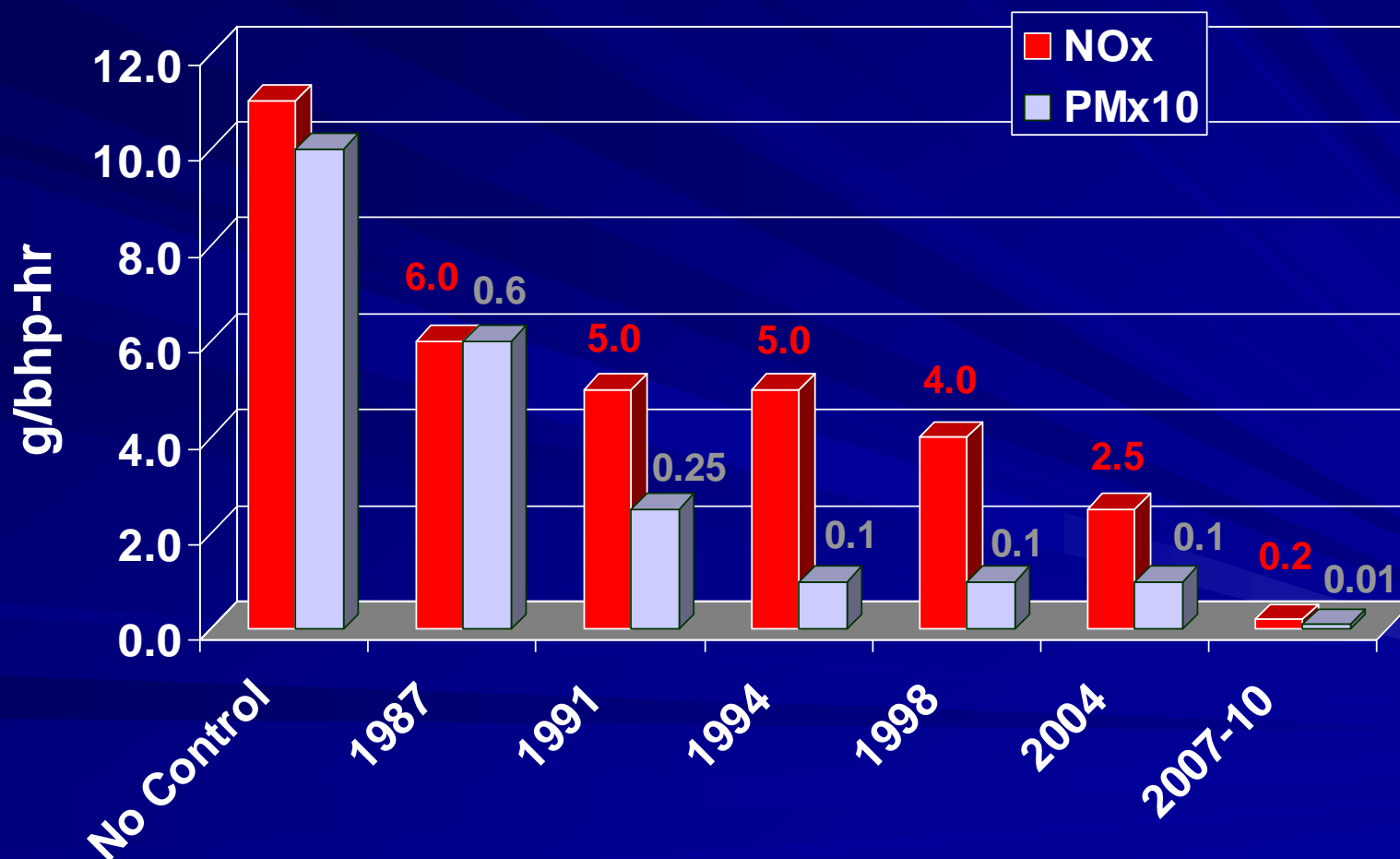
## ■ Reduce PM and NOx

- Retrofit with highest level PM/NOx device
- Switch to alternative fuel
- Use 2007 engine
- Retire vehicle

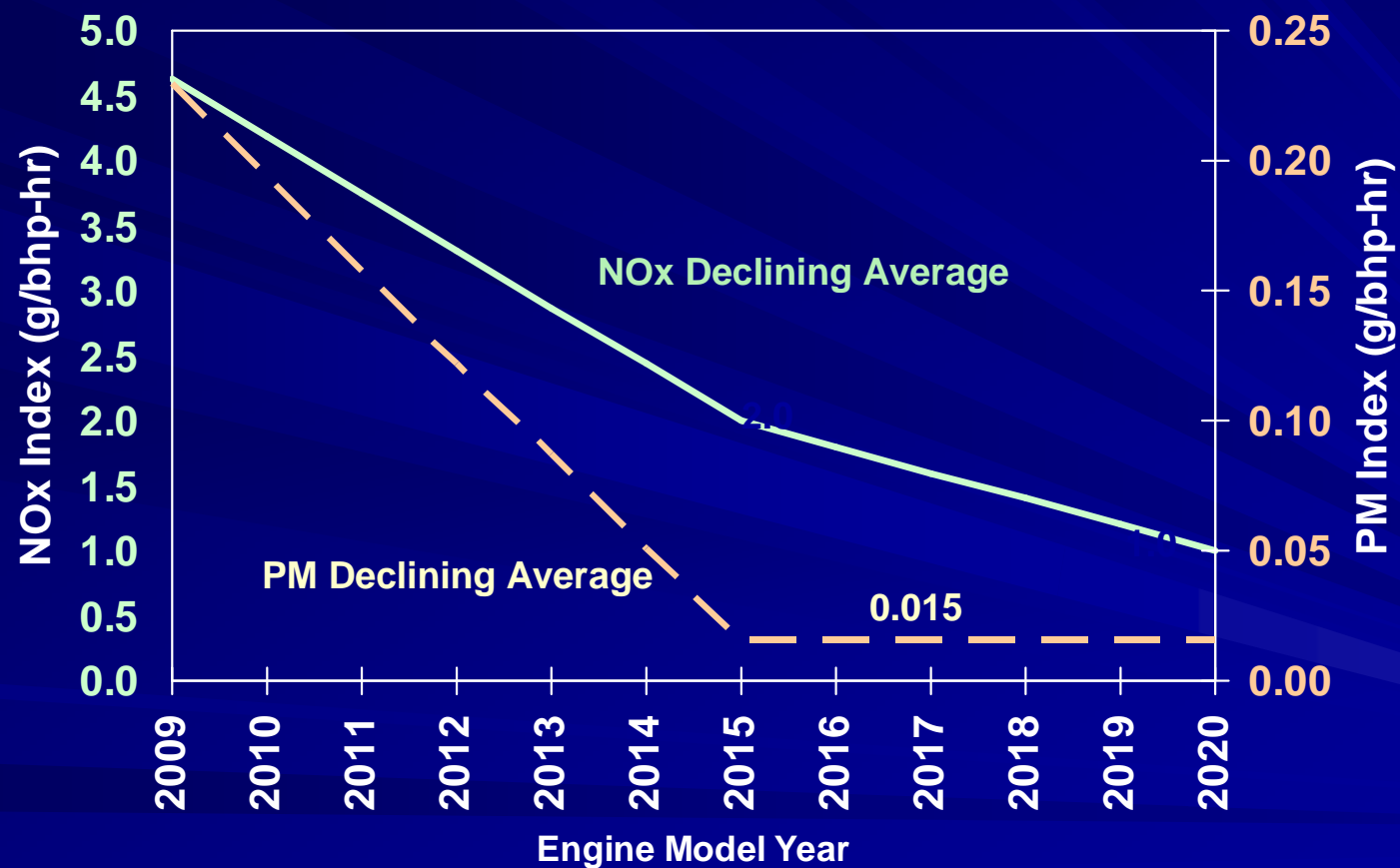
# Proposed Regulation: Fleet Average

- Allows fleets to determine the best path to compliance
- Declining PM and NOx averages to meet PM and NOx targets
- Must have 5 or more vehicles
- Report annually

# PM & NOx Certification Standards



# Fleet Average – Declines Over Time





# Proposed Regulation: BACT

- Emissions equivalent to 2004 model year or newer by 2014
  - Apply highest level PM/NO<sub>x</sub> BACT available
  - 5 model year groups (engine model year)
  - Phase-in starting in 2009 with oldest model group
- Emissions equivalent to 2007 model year engine or better by 2020
  - Beginning in 2014, phase-out pre-2007 model year engines (or equivalent) by 2020 (20% per year)

# BACT Schedule

Model Years	Compliance Date
1965-1994	Dec 2009
1995-1997	Dec 2010
1998-1999	Dec 2011
2000-2002	Dec 2012
2003-2006	Dec 2013

# Rule Development Issues

## ■ BACT

- NO<sub>x</sub> levels
- Phase-in schedule

## ■ Low use definition

## ■ Business characterization

## ■ Specialty vehicles

## ■ Greenhouse gases

# Next Steps

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- Inventory refinements
- Additional surveys
- Characterize financial impact on businesses
- Develop regulatory language
- Next workshops – June/July 2007

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